

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of determining electron tunneling values at various locations in a capacitor structure having at least a first and a second conductive plate with a dielectric material disposed there between, and wherein each said plate has first and second opposite ends, comprising the steps of[[:]]:

determining the nominal tunneling voltage of said dielectric material at the thickness of the dielectric material to provide a target voltage ;

applying a first voltage level equally across said first plate ~~of~~ from said first to said second ends;

applying a voltage to said second conductive plate at said first end which is above the target voltage and applying a voltage to said second end of said second plate;

applying incrementally changing voltage levels to said second end of said second plate, which varying voltage levels change the voltage at said second end of said second plate of each set to vary the length of the capacitive structure above said target voltage to localize and measure tunneling leakage at selected locations along said capacitor.

2. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the second plate of is comprised of a plurality of segments.

3. (Currently amended) The ~~invention~~method as defined in claim 2 wherein said first plate is a unitary structure.

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4. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the voltages are incrementally changed to correspond to the segments of said second plate.

5. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the second voltage applied to the second end of said second plate is initially less than the target voltage, and is incrementally increased.

6. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the second voltage applied to the second end of said second plate is equal to or greater than the target voltage, and is incrementally decreased.

7. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the first plate is silicon.

8. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the second plate is polysilicon.

9. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the insulating material is less than about 4 nanometers thick.

10. (Currently amended) The ~~invention~~method as defined in claim 2 wherein the first plate is comprised of a plurality of discrete segments corresponding to the segments of the

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second plate, and tunneling voltage is measured at each segment of the first plate individually.

11. (Currently amended) The ~~invention~~method as defined in claim 10 wherein a differential amplifier is used to compare the tunneling current is compared between two segments being tested.

12. (Currently amended) The ~~invention~~method as defined in claim 2 wherein the segments of the second plate are electrically interconnected.